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ABSTRACT

An increase in reciprocity of interpersonal attraction during the early acquaintance period followed by continuing social reciprocity are propositions that are central principles of several social psychological viewpoints. However, there is little empirical evidence of increasing reciprocity of interpersonal attraction over time. Two potential reasons exist for this failure to find reciprocity over time. First, the reciprocity correlation contains a mixture of two correlations: reciprocity at the individual level, and reciprocity at the dyadic level. Second, physical proximity may affect reciprocity, particularly during early acquaintance. The two reciprocity correlations and effects of physical proximity can be estimated from a round robin design. Data from six eight-person clusters studied by Curry and Emerson were analyzed. Correlations computed by taking all possible dyads measured at five time points showed weak reciprocity effects with a decrease across the five time points. The individual level correlations were small, while the dyadic correlations were positive. Partialling out roommate effects from the dyadic correlation enhanced increasing reciprocity over time. Thus, the findings suggest that reciprocity of attraction increases over time when the research accounts for two different levels of analysis and controls for roommate effects. (Author/NRB)

RECIPROCITY OF INTERPERSONAL ATTRACTION: A CONFIRMED HYPOTHESIS

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It would seem highly plausible that the degree of interpersonal attraction would be reciprocated. Further, the reciprocity in the degree of liking between persons should increase over time. These commonsense propositions of reciprocity of interpersonal attraction and of continuing social reciprocity over time are central principles of several theoretical viewpoints. These include social exchange theories (e.g., Blau, 1964; Emerson, 1967; Homans, 1961) and cognitive-consistency or balance theories (e.g., Heider, 1958; Newcomb, 1956, 1961).

Although many research studies have examined social reciprocity of attraction, there is little empirical evidence of increasing reciprocity over time. Evidence from studies where the belief or appearance of liking is manipulated (e.g., Backman & Secord, 1959) is not relevant for reciprical attraction. In interpersonal relationships reciprocal attraction refers to mutuality of the actual liking of one person for another.

Results from studies which provide a direct assessment of the degree of reciprocal interpersonal attraction provide little or no evidence for increasing reciprocity over time. Newcomb (1961) obtained weekly attraction ratings from two groups of 17 college residence hall students over a period of 16 weeks. Newcomb (1979) reports that these data provide little or no empirical support for increasing reciprocity of interpersonal attraction with continuing acquaintance.

Kenny and Nasby (1980) have demonstrated that the reciprocity occurs at two levels: reciprocity at the individual level and reciprocity at the dyad level. The individual level is the relationship between giving liking, relative to other raters, and the degree to which a person received liking, relative to

other targets. Thus, individuals may differ with respect to the degree to which they give liking and receive liking. Individual differences in giving liking might measure difference in how persons use the scale (i.e., a response set) or differences in the degree to which persons are likers and others are dislikers. Persons may also differ in the degree to which they are liked, relative to others. Newcomb (1979) shows that the degree to which group members agreed concerning the relative attractiveness of residence hall members increased from week 1 to week 15 in the second study. These individual differences in receiving liking will lower the reciprocity correlation if the recipient of liking does not reciprocate the attraction received. Thus, the individual correlation is between liking and likeability. This correlation is at the level of the individual since the unit of analysis is the individual.

There is also a dyadic level correlation which can be explained as follows. Peter's liking for Paul can be partly accounted for by Peter's average level of giving liking and Paul's average level of receiving liking. That which remains is the relative attraction of Peter to Paul. The dyadic level correlations is between Peter's relative attraction toward Paul and Paul's relative attraction toward Peter.

The individual level reciprocity correlation and the dyadic reciprocity correlation can be estimated from the round robin design. The round robin design requires every person in a group to rate each group member. Newcomb (1961) and Curry and Emerson (1970) employed the round robin design. Curry and Emerson (1970), for example, had each of the eight college students who shared a dormitory residence suite state their attraction toward the other seven residents. These ratings can be organized in a two-way table of rater (or perceiver) by ratee (or target).

The formal model is

$$X_{ij} = m + a_i + b_j + c_{ij} \quad (1)$$

$$X_{ji} = m + a_j + b_i + c_{ji} \quad (2)$$

where X_{ij} is person i's attraction toward person j at time k and X_{ji} is j's attraction toward i at time k. The term, m, represents the grand mean or the average level of attraction across all raters and targets. The perceiver effect, a, represents the extent to which a person gave relatively high or low ratings of liking, i.e., the degree to which he or she like group members. The target effect, b, represents the degree to which persons were liked by others, i.e., a person's likeability. The relationship effect, c, represents the relative adjustment of the perceiver to the target, subtracting out the perceiver effect of the rater and the target effect of the ratee. As an illustration of the relationship effect, consider person Amy who rates her attraction toward Lynn. Her response is in part a function of how much liking she does (perceiver effect) and Lynn's likeability (target effect). In addition to these two factors, Amy may like Lynn more or less than expected. This special adjustment to Lynn is referred to as the relative attraction of Amy toward Lynn. The relative attraction is unconfounded with the individual differences in giving liking and receiving liking.

The lines connecting elements of the two equations represent the reciprocity correlations. The correlation between X_{ij} and X_{ji} represents the undifferentiated reciprocity correlation. The crossed lines represent the individual level reciprocity correlations, i.e., the correlation between a person's tendency to give liking and his or her likeability on occassion k. The line connecting term, c_{ij}, of Equation 1 and term, c_{ji}, of Equation 2 represents the dyadic reciprocity correlation. Consider persons Amy and Lynn once more. The dyadic correlation is the association between Amy's relative attraction toward Lynn and Lynn's relative attraction toward Amy.

Kenny and Nasby demonstrate the substantial difference in the magnitude

of the individual and dyadic level reciprocity correlations. They find reciprocity of attraction (averaged across time points) only at the dyadic level. Thus, reciprocity of attraction with increasing acquaintance may be present at the dyadic level once individual level effects are controlled. Of interest in this paper is whether the dyadic correlation increases over time.

There is a second potential reason for the failure to find increasing reciprocity over time. Although the effect of physical proximity on interpersonal relations is well documented, it is not realized that proximity affects reciprocity. Given proximity effects, roommates may like each other more than nonroommates. This effect of proximity will create reciprocity. It is also plausible that proximity effects, when present, would have more of an influence on attraction early in a relationship than later; hence, proximity will result in more "reciprocity" early in acquaintance than later. There is some empirical evidence that proximity might, in fact, affect interpersonal attraction. Results reported by Priest and Sawyer (1967) suggest that physical proximity affects the reciprocity of interpersonal attraction among college dormitory residents. Further, these effects diminished over time.

This paper explores the hypothesis that the low reciprocity correlations over time are due, in part, to a confounding of the two levels of correlation and due to the effects of persons being roommates.

Method

The data analyzed here are those of Curry and Emerson (1970). There were six 8-person clusters. Persons previously unacquainted stated their attraction toward their fellow cluster-members on 100-point scales at weeks 1, 2, 4, 6, and 8. Four of the six clusters were all male, and the other two were all female. For additional details concerning data collection, one should consult Curry and Emerson (1970).

Reciprocity correlations at the individual and dyadic levels were obtained through an analytic technique of the multivariate round robin analysis (Kenny, 1981). The multivariate round robin analyses were performed separately on each of the six clusters, and then the results were averaged across clusters. Reciprocity correlations were computed for the attraction measure at each time point and the variable roommate was correlated with attraction. Since the variable roommate is a fixed-effect variable, a modification of the expected mean cross-product table reported in Kenny (1981) was necessary. The estimate of the dyadic-level correlation between two fixed-effect variables or a fixed-effect and a random-effect variable is a function of only the cell by cell and cell by cell mean cross products. All other estimates involving a fixed-effect variable are identical to those of random-effects described in Kenny (1981). Partial correlations on the dyadic level reciprocity correlation controlling for effects due to roommate were then computed.

Results and Discussion

Correlations were first computed by taking all possible dyads and correlating scores within each cluster and then pooling results across clusters. The results show rather weak reciprocity effects and even more interestingly a decrease across the five time points. At week 1, the correlation is .34 and by week 8, it drops to .14.

However, when the correlation is broken up into its dyadic and individual components we see that the individual level correlations are rather small and even negative while the dyadic correlations are quite positive. In contrast to the low individual reciprocity correlation the dyadic reciprocity correlation increases from .40 at week 1 to .53 at week 6. With the exception of week 6 there is a small but consistent increase in the dyadic correlation.

Roommate effects were clearly evident. Roommates were liked more than

nonroommates at all five time points. However, this advantage was more clearly evident at week 1 when the difference was 14.42 units on 100 point scale, and weakest at week 8 when it was 6.97 units. Table 1 presents the partial correlations between persons controlling for the effect of being a roommate. Note that the dyadic correlations are lowered when roommate effects are removed. Thus, roommate effects enhance reciprocity. But having removed the roommate effect, there is now a more evident increase in reciprocity over time, again with week 6 being an exception. Thus, partialling out roommate effects, enhances increasing reciprocity over time.

One explanation of increasing reciprocity is increasing reliability of measurement. It is possible to assess reliability for the middle three waves by a method presented by Heise (1969). There is no indication of such an increasing trend.

Thus, it seems that reciprocity of attraction does increase over time when one accounts for two different levels of analysis and controls for roommate effects.

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Table 1

Reciprocity of Attraction at Five Different Times

Week	Undifferentiated	Individual	Dyadic	Dyadic with Roommate Controlled
1	.34	.36	.40	.33
2	.20	-.05	.45	.40
4	.18	-.33	.47	.44
6	.02	-.34	.36	.33
8	.14	-.12	.53	.50